

1889

Book "M"

FIELD NOTES

BOOK 1889

OF THE SURVEY OF THE

*East, West and North boundaries of
Township 2 North Range 31 East*



1889

1889



Of the *Gila and Salt River* Meridian,

Territory of Arizona

AS SURVEYED BY

John P. Kess, United States Deputy Surveyor,

Under his Contract No. *121*, dated *June 17, 1904*, 18*99*

Survey commenced *August 18*, 18*94*

Survey completed *August 27*, 18*94*

NAMES AND DUTIES OF ASSISTANTS.

George W. Cassidy Chairman

A. G. Snyder Chairman

W. W. Oliver Axman

G. E. Wiswell Axman

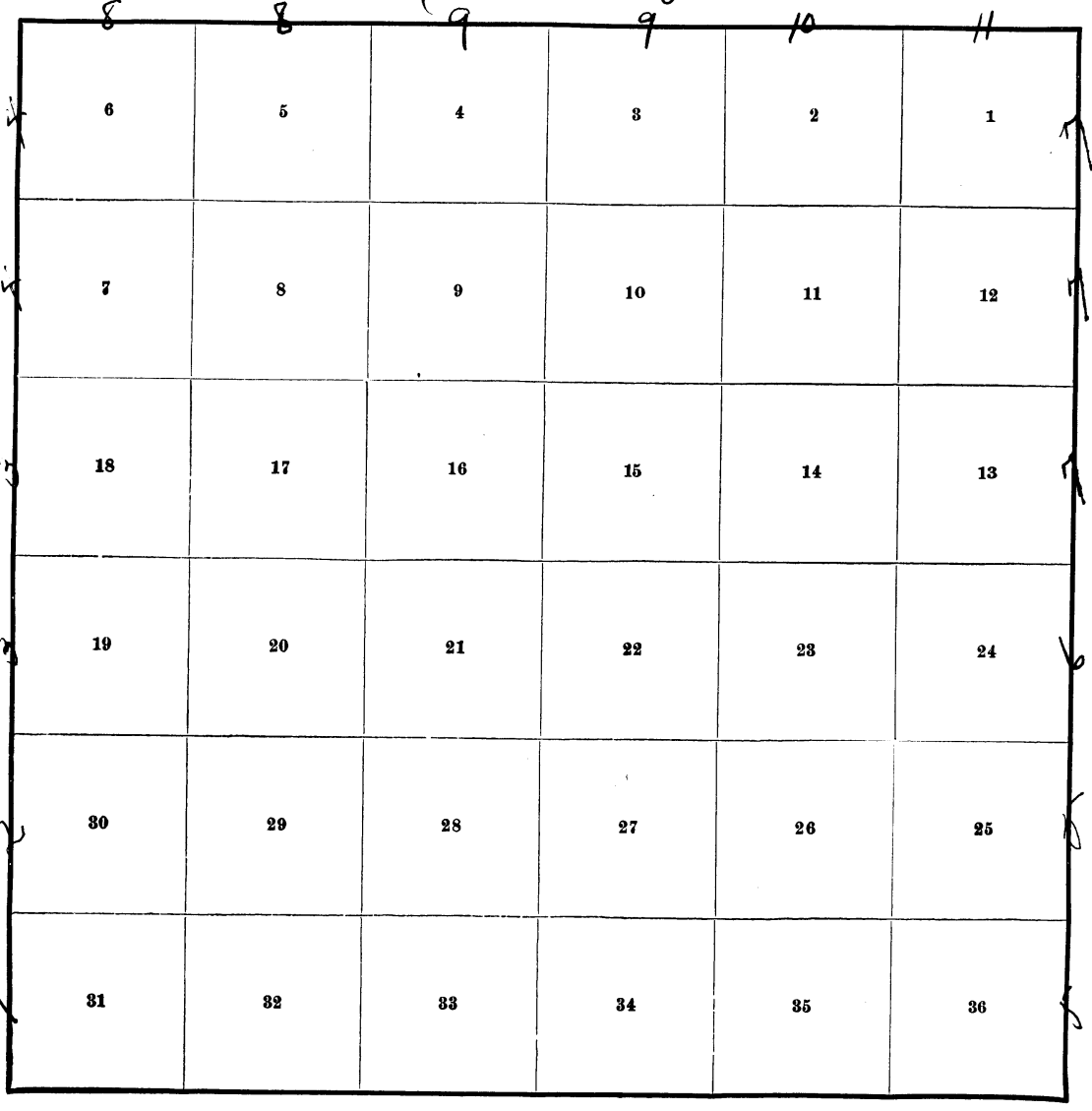
W. N. Port Plagman

Blank handwriting practice lines consisting of a solid top line, a dashed middle line, and a solid bottom line.

BOOK 1889

INDEX DIAGRAM.

Township 2 N., Range 3 E.



Meanders Page.....

PRELIMINARY OATHS OF ASSISTANTS.

WE, George W. Cassidy and A. A. Snyder
do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level the chain over even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; that we will report the true distances to all notable objects, and the true lengths of all lines that we assist in measuring, to the best of our skill and ability, and in accordance with instructions given us, in the survey of the east, west and north boundaries of Twp. 2 N. Rg. 31 E.

George W. Cassidy, Chainman.
A. A. Snyder, Chainman.

Subscribed and sworn to before me this 1st
day of August 1904, 189



John F. Hesse
U.S. Dep. Surveyor

WE, _____ and _____
do solemnly swear that we will well and truly perform the duties of moundmen in the establishment of corners, according to the instructions given us, to the best of our skill and ability, in the survey of _____

_____, Moundman.
_____, Moundman.

Subscribed and sworn to before me this _____
day of _____, 189



WE, W. W. Oliver and G. E. Wiswell
do solemnly swear that we will well and truly perform the duties of axmen in the establishment of corners and other duties, according to instructions given us, to the best of our skill and ability, in the survey of the east, west and north boundaries of Twp. 2 N. Rg. 31 E.

W. W. Oliver, Axman.
G. E. Wiswell, Axman.

Subscribed and sworn to before me this 1st
day of August 1904, 189



John F. Hesse
U.S. Dep. Surveyor

I, W. A. Fort, do solemnly swear that I will well and truly perform the duties of flagman according to instructions given me, to the best of my skill and ability, in the survey of the east, west and north boundaries of Twp. 2 N. Rg. 31 E.

W. A. Fort, Flagman.

Subscribed and sworn to before me this 1st
day of August 1904, 189



John F. Hesse
U.S. Dep. Surveyor

No notary available

West boundary of T. 2 N., R. 31 E., Arizona.

Chs.

Survey commenced August 18th, 1904, and executed with a W. and L. E. Gurley Light Solar Compass, not numbered. The horizontal limb is provided with two double verniers, placed opposite to each other, reading to single minutes of arc, which is also the least count of the vernier of the latitude arc.

The vernier of the declination arc reads to 30'' of arc.

The instrument was examined, and tested by the surveyor-general for Arizona, on the meridian at Phoenix, Arizona, and was approved March 3rd, 1904.

I examine the adjustments of the Compass and find them correct; then to test the solar apparatus by comparing its indications, resulting from solar observations made during a. m. and p. m. hours, with a true meridian determined by an observation on Polaris, I proceed, as follows,

August 18th, 1904, at the corner of Tps. 1 and 2 N., Rs. 30 and 31 E., heretofore established and described by me, at 4h 5m p. m., l. m. t., in latitude 33° 27' 53" N., and longitude 109 10' W., I set off 33° 28' N., on the lat. arc., 13° 01' 30" N., on the decl. arc, these settings being the nearest practicable (to the true minutes and fractions thereof) and determine with the Solar a meridian; and mark a point thereof on a stone, set firmly in the ground 5 chs. N. of the corner.

At 9h 40m, p. m., l. m. t., by my watch which is corrected to said time, I observe Polaris at eastern elongation, in accordance with the Manual of surveying instructions, and mark a point on the line thus determined on a plu drive in the ground, 5 chs. North of my station.

August 18th, 1904.

August 19th, at 6 a. m., l. m. t., I lay off the azimuth of Polaris 1° 26' to the west and mark the Meridian thus determined, by cutting a small groove in the stone, set August 18th, on which the true meridian falls .15 ins. west of the mark determined by the Solar.

At 7 a. m., l. m. t., I set off 33 28' N., on the lat arc., and 12° 50' N., on the decl. arc and determine a true meridian with the Solar, by a cross on the stone already set 5 chs. N. of my station, this mark falls .10 ins., east of the meridian established by the Polaris observation.

The solar apparatus practically defines, a. m., and p. m., observations identical with the meridian determined from Polaris, I therefore conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the Meridian as corrected is 16° 40' E.

I begin at the corner of Tps. 1 and 2 N., Rs. 30 and 31 E., thence I run, North on a true line on the west boundary of Tp. 2 N., R. 31 E., bet. secs. 31 and 36 along gentle East slope of rough mountains through heavy timber of pinon, juniper and cedar.

Ascending.

5.00 Top of spur bears E. and W.

Descend.

11.80 Gully 10 lks. wide, course east.

37.10 Road bears S. E. and N. W. from Clifton to Luna Valley.

39.40 As the point for 1/4 sec. cor. falls in Blue River, at this point, I set a malpais stone, 20 x 14 x 12 ins., ~~14~~ 15 ins., in the ground for witness 1/4 sec.

2.

West boundary of T. 2 N., R. 31 E., Continued.

Chs.	corner, marked W. C. 1/4 on the W. face, whence, A box elder, 14 ins., in diam. brs. N. 12° E., 28 lks. dist. mkd. W. C. 1/4 S. 31 B. T. A box elder, ^{14 ins. in diam.} brs. N. 76 1/2° W., 47 lks. dist. mkd. W. C. 1/4 S., 36 B. T.
40.	The point for 1/4 sec. cor. in Blue River.
40.25	Center of Blue River, running water, 70 lks. wide, course easterly.
41.00	Leave Canon bottom and begin steep ascent of S. slope of mountain ridge.
42.20	Cross fence, bears N. 85° W., and enter enclosure.
45.00	Dry creek, 50 lks. wide, course S. W.
50.00	Gully 10 lks. wide, course westerly. Ascend steep.
56.75	Top of ridge bears E. and W. as well as a log and wire fence and descend into deep canon.
64.10	Bottom of Canon, dry creek, 40 lks. wide, course S. W. and begin ascent.
74.00	Top of ridge bears E. and W. Descend.
80.00	Set a malpais stone, 24 x 14 x 4 ins., ¹⁸ 17 ins., in the ground for the corner of sections 25, 30 31 and 36, marked with 1 groove on the S. and 5 grooves on the N. edges, whence A pinon, 3 ins., in diam. brs. N. 14 3/4° E., 25 lks. dist. mkd. T. 2 N., R. 31 E., S. 30 B. T. A Cedar, 7 ins., in diam. brs. S. 74 1/2° E., 8 lks. dist. mkd. T. 2 N., R. 31 E., S. 31 B. T. A Cedar, 4 ins., in diam. brs. S. 15° W., 65 lks. dist. mkd. T. 2 N., R. 30 E., S. 36 B. T. A Cedar, 5 ins., in diam. brs. N. 6 1/2° W., 18 lks. dist. mkd. T. 2 N., R. 30 E., S. 25 B. T. Land rough rugged and broken mountains 80. chs. Soil rocky and 4th rate. Timber dense cedar, pinon and juniper timber . 80. chs. Scattering oak under brush.

	North, on a true line, bet. secs. 25 and 30. Ascending E. slope of mountains through heavy cedar pinon and juniper timber.
1.00	Gully, 10 lks. wide, course S. W. and ascend.
28.00	Top of ridge bears E. and W. and descend.
30.40	Ravine, 15 lks. wide, course west and ascend.
37.00	Top of ridge bears E. and W. and descend.
40.00	The point for 1/4 sec. cor., falls in a gully, 20 lks. wide, course W.
40.50	Set a malpais stone, 20 x 14 x 5 ins., ¹⁶ 14 ins., in the ground for W.C. 1/4 sec. cor., marked W. C. 1/4 on the W. face, whence, A pinon, 7 ins., in diam. brs. S. 41° E., 183 lks. dist. mkd. 1/4 S. 30 B. T., W. C. A pinon, 5 ins., in diam. brs. N. 43 1/2° W., 25 lks. dist. mkd. 1/4 S. 25 B. T. W. C. Ascending.
50.00	Top of ridge bears E. and W. and descend.
54.10	Ravine, 10 lks. wide, course west and ascend.
61.05	Top of ridge bears E. and W. and descend.
78.10	Dry creek, 40 lks. wide, course S. W. and ascend.
80.00	Set a malpais stone, 30 x 24 x 16 ins., 24 ins., in the ground for the cor. to secs. 19, 24, 25 and 30, marked with 2 grooves on the S. and 4 grooves on the N. edges, whence, A Juniper, 5 ins., in diam. brs. N. 9 1/2° E., 25 lks. dist. mkd. T. 2 N., R. 31 E., S. 19 B. T. A Juniper, 4 ins., in diam. brs. S. 79° E., 81 lks. dist. mkd. T. 2 N., R. 31 E., S. 30 B. T.

3. West boundary of T. 2 N., R. 31 E., Continued.

Chs.	A Cedar, 13 ins., in diam. brs. S. 58 1/2° W., 28 lks. dist. mkd. T. 2 N., R. 30 E., S. 25 B. T. A pinon, 4 ins., in diam. brs. N. 58° W., 106 lks. dist. mkd. T. 2 N., R. 30 E., S. 24 B. T. Land rough and rugged mountains 80. chs. Timber dense cedar, juniper and pinon timber 80.chs. Soil, rock 3rd and 3th rate. Scattering cedar and oak underbrush. Cor. of secs. 19,24,25 and30, At 12 o'clock noon, by my watch which has correct local mean time, I set off 12° 54' 30" N., on the declination arc and observe the Sun; the resulting latitude is 33° 30' N., the true latitude.
40.00	North on a true line bet. secs. 19 and 24. Ascending over gentle W. slope of mountain rough and broken, through heavy timber of juniper, pinon and cedar. Set a malpais stone, 36 x 14 x 10 ins., 30 ins., in the ground for 1/4 sec. cor. marked 1/4 on the W. face, whence, A pinon, 6 ins., in diam. brs. N. 57° E., 123 lks. dist. mkd. 1/4 S. 19 B. T. A pinon, 8 ins., in diam. brs. N. 27° W., 109 lks. dist. mkd. 1/4 S. 24 B. T.
55.09	Dry creek, 60 lks. wide, course S. W. and ascend.
70.44	Top of ridge bears E. and W. and descend.
80.00	Set a malpais stone, 24 x 14 x 12 ins., 18 ins., in the ground for the corn. of secs. 13, 18, 19 and 24 marked with 3 grooves on the N. and S. edges, whence A pinon, 12 ins., in diam. brs. N. 70° E., 105 lks. dist. mkd. T. 2 N., R. 31 E., S. 18 B. T. A pinon, 10 ins., in diam. brs. S. 6 3/4° E., 162 lks. dist. mkd. T. 2 N., R. 31 E., S. 19 B. T. An oak, 6 ins., in diam. brs. S. 51 3/4° W., 12 lks. dist. mkd. T. 2 N., R. 30 E., S. 24 B. T. A pinon, 15 ins., in diam. brs. N. 61 1/2° W., 117 lks. dist. mkd. T. 2 N., R. 30 E., S. 13 B. T. Land rough and broken mountains 80.chs. Timber dense cedar, pinon and juniper 80.00 chs. Soil rocky and 4th rate. Scattering oak and cedar underbrush. August 19th, 1904.
1.00	August 20th, 1904, at 7 a. m., 1. m. t., I set off 33° 31' N., on the lat arc., and 12° 30' N., on the decl. arc and determine a true meridian with the Solar; thence I run, North on a true line bet. secs. 13 and 18, over rough broken mountains through scat'g. cedar and juniper timber.
15.04	Ravine 10 lks. wide, course E. and ascend. Top of ridge bears E. and W. and descend into creek bottom.
34.70	Dry creek, 35 lks. wide, course W. and ascend.
40.00	Set a malpais stone, 18 x 12 x 8 ins., 12 ins., in the ground for 1/4 sec. cor., marked 1/4 on the W. face; whence, An oak, 6 ins., in diam. brs. N. 55 1/2° E., 160 lks. dist. mkd. 1/4 S. 18 B. T. A pinon, 7 ins., in diam. brs. S. 88 1/4° W., 52 lks. dist. mkd. 1/4 S. 3 B. T.
46.00	Top of ridge bears E. and W. and descend.
56.50	Ravine, 15 lks. wide, course N. and ascend.
60.09	Top of ridge bears N. E. and S. W. and descend.
63.56	Ravine 10 lks. wide, course N. N. W.
68.05	Dry creek, 60 lks. wide, course W. and begin ascent of sttep S. slope of mountain ridge.
80.00	Set a malpais stone, 24 x 12 x 8ins., 18 ins., in

4

West boundary of T. 2 N., R. 31 E., Continued.

Chs.	<p>the ground, for the cor. of secs. 7, 12, 13 and 18, marked with 4 grooves on the S. and 2 grooves on the N. edges; whence, A Juniper, 6 ins., in diam. brs. N. 3 1/2° E., 298 lks. dist. mkd. T. 2 N., R. 31 E., S. 7 B.T. A Juniper, 8 ins., in diam. brs. S. 19° E., 147 lks. dist. mkd. T. 2 N., R. 31 E., S. 18 B.T. A Juniper, 9 ins., in diam. brs. S. 56 1/2° W., 208 lks. dist. mkd. T. 2 N., R. 30 E., S. 13 B.T. A Juniper 7 ins., in diam. brs. N. 75° W., 168 lks. dist. mkd. T. 2 N., R. 30 E., S. 12 B. T. Land rough mountains 80. chas. Scattering juniper, and cedar timber. Soil, rocky and 4th rate. Scattering cedar and oak underbrush.</p>
20.00 29.20 40.00	<p>North, on a true line bet. secs. 7 and 12, along gentle west slope of rough mountains, through dense oak and cedar brush through scattering timber. Top of ridge bears E. and W. and descend. Ravine 20 lks. wide, course W. and ascend. Set a malpais stone, 18 x 12 x 8 ins., 12 ins., in the ground for 1/4 sec. cor. marked 1/4 on the W. face, whence,</p>
51.09 63.35 68.25 74.00 80.00	<p>An oak, 5 ins., in diam. brs. S. 81° E., 38 lks. dist. mkd. 1/4 S. 7 B. T. A pinon, 5 ins., in diam. brs. S. 14° W., 43 lks. dist. mkd. 1/4 S. 12 B. T. Top of ridge bears E. and W. and descend. Gully 10 lks. wide, course N. W. Ravine, 30 lks., wide, course N. W. and ascend. Top of spur bears E. and W. and descend. Set a sandstone, 24 x 12 x 10 ins., 18 ins., in the ground for the cor. of secs. 1, 6, 7 and 12, marked with 5 grooves on the S. and 1 groove on the N. edges; whence, A pine, 8 ins., in diam. brs. N. 29° E., 151 lk. dist. mkd. T. 2 N., R. 31 E., S. 6 B. T. A juniper, 5 ins., in diam. brs. S. 54° E., 54 lks. dist. mkd. T. 2 N., R. 31 E., S. 7 B. T. A pine, 24 ins., in diam. brs. S. 30 1/2° W., 102 lks. dist. mkd. T. 2 N., R. 30 E., S. 12 B. T. A pine, 16 ins., in diam. brs. N. 15° W., 28 lks. dist. mkd. T. 2 N., R. 30 E., S. 1 B. T. Land broken mountains 80.00 chains. Soil, rocky and 4th rate. Timber, scattering pine, pinon and cedar 80. chs. Scattering oak and cedar underbrush.</p>
40.00	<p>North, on a true line bet. secs. 1 and 6. Over rough mountains through heavy timber. Set a malpais stone, 22 x 8 x 7 ins., 17 1/2 ins., in the ground to bed rock, for 1/4 sec. cor. marked 1/4 on the W. face, whence,</p>
72.00 79.60 80.00	<p>An oak, 5 ins., in diam. brs. S. 74 1/2° E., 42 lks. dist. mkd. 1/4 S. 6 B. T. A pine, 12 ins., in diam. brs. N. 41 1/2° W., 6 lks. dist. mkd. 1/4 S. 1 B. T. Gully, 15 lks. wide, course w. and ascend. Top of ridge bears E. and W. and descend. Set a malpais stone, 18 x 12 x 8 ins., 12 ins., in the ground for the corner of Tps. 2 and 3 N., Rs 30 and 31 E., marked with 6 grooves on the N. S. E., and W. edges, whence, A Juniper 12 ins., in diam. brs. N. 32° E., 79</p>

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West boundary of T. 2 N., R. 31 E., Concluded.

Chs.

1ks. dist. mkd. T. 3 N., R. 31 E., S. 31 B. T.
 A Juniper 8 ins., in diam. brs. S. 63 1/4° E.,
 64 lks. dist. mkd. T. 2 N., R. 31 E., S. 6 B. T.
 A pinon, 14 ins., in diam. brs. S. 40 1/2°
 W., 60 lks. dist. mkd. T. 2 N., R. 30 E., S. 1
 B. T.
 A Juniper, 8 ins., in diam. brs. N. 48 1/2°
 W., 75 lks. dist. mkd. T. 3 N., R. 30 E., S. 36
 B. T.
 Land mountains and very rough 80.00 chs.
 Soil, 3rd and 4th rate.
 Timber, heavy pine, cedar and juniper. 80. chs.
 Oak underbrush very dense 80.00 chs.
 August 20, 1904.

 EAST BOUNDARY OF T. 2 N., R. 31 E.

August 22nd, 1904, at 7h36m, a. m., 1. m. t., I set
 off 33° 28' N., on the lat. arc, 11° 50' N., on the
 decl. arc, and determine a true meridian with the
 Solar at the cor. of Tps. 1 and 2 N., Rs. 31 and 32 E.
 Thence I run,

North, on a true line, on the east boundary of
 T. 2 N., R. 31 E., bet. secs. 31 and 36.
 Descending over broken mountainous land through
 heavy pine, pinon and juniper timber.

2.75
 9.40
 29.10
 39.15
 40.00 ✓

Gully, 15 lks. wide, course S. E.
 Gully 15 lks. wide, course S. W.
 Top of ridge bears E. and W. and descend.
 Ravine, 15 lks. wide, course W. and ascend.
 Set a malpais stone, 18 x 12 x 10 ins., 12 ins., in
 the ground for 1/4 sec. cor. mkd. 1/4 on the W.
 face; whence,

A Juniper, 16 ins., in diam. brs. N. 84° E.,
 47 lks. dist. mkd. 1/4 S., 31 B. T.
 An oak, 14 ins., in diam. brs. N. 48° W., 9
 lks. dist. mkd. 1/4 S. 36 B. T.
 This 1/4 sec. cor. is on a high ridge bearing E.& W.
 Commence descent.

80.00 ✓

Set a malpais stone, 36 x 22 x 15 ins., 30 ins., in
 the ground for the cor. of secs. 25, 30, 31 and 36,
 marked with 1 groove on the S. and 5 grooves on the
 N. edges; whence,

An oak, 6 ins., in diam. brs. N. 31° E., 26
 lks. dist. mkd. T. 2 N., R. 32 E., S. 30 B. T.
 A pine, 18 ins., in diam. brs. S. 59 1/4° E.,
 114 lks. dist. mkd. T. 2 N., R. 31 E., S. 36 B. T.
 An oak, 6 ins., in diam. brs. S. 45 1/2° W.,
 35 lks. dist. mkd. T. 2 N., R. 31 E., S. 36 B. T.
 An oak, 8 ins., in diam. brs. N. 6 1/2° W.,
 59 lks. dist. mkd. T. 2 N., R. 31 E., S. 25 B. T.

Land rough mountains 80. chs.
 Timber, dense, cedar, juniper, pinon, pine and oak. 80. chs.
 Heavy oak and cedar underbrush 80. chs.
 Soil 3rd and 4th rate.

 North, on a true line net. secs. 25 and 30.
 Ascending over rough mountains, through heavy pine,
 pinon and cedar timber.

4.50
 10.60
 40.00 ✓

Ascending.
 Top of ridge bears E. and W. and descend.
 Ravine, 20 lks. wide, course S. W. and ascend.
 Set a malpais stone, 34 x 16 x 11 ins., 27 ins., in
 the ground to bed rock for 1/4 sec. cor. mkd. 1/4 S.

6. East boundary of T. 2 N., R. 31 E., Continued.

Chs.

on the W. face, whence,

A pine, 16 ins., in diam. brs. S. 37° E., 56 lks. dist. mkd. 1/4 S. 30 B. T.

A pine, 28 ins., in diam. brs. S. 10° W., 136 lks. dist. marked 1/4 S., 25 B. T.

75.00

Gully, 10 lks. wide, course W.

80.00 ✓

Set a malpais stone, 28 x 6 x 6 ins., 22 ins., in the ground for the corner of secs. 19, 24, 25 and 30, marked with 4 grooves on the N., and 2 grooves on the S. edges, whence,

A juniper 4 ins., in diam. brs. N. 69 1/2° E., 70 lks. dist. mkd. T. 2 N., R. 32 E., S. 19 B. T.

A pine, 7 ins., in diam. brs. S. 65° E., 35 lks. dist. mkd. T. 2 N., R. 32 E., S. 30 B. T.

A juniper, 6 ins., in diam. brs. S. 8 1/2° W., 80 lks. dist. mkd. T. 2 N., R. 31 E., S. 25 B. T.

A pine, 28 ins., in diam. brs. N. 87 1/2° W., 58 lks. dist. mkd. T. 2 N., R. 31 E., S. 24 B. T.

Land very rough mountains 80. chs.

Soil, rocky and 4th rate.

Timber, pinon, cedar and juniper 80. chs.

Undergrowth oak very dense.

at noon

August 22nd, at the cor. just above described, I set off 11° 45' N., on the decl. arc and observe the sun, the resulting latitude is 33° 30' N., the true lat. nearly.

Thence North on a true line bet. secs. 19 and 24. Over rough mountainous land, through heavy pine and juniper timber and dense oak brush. Ascending.

4.50

Top of ridge bears E. and W. and descend.

10.60

Ravine 20 lks. wide, course W.

40.00 ✓

Set a malpais stone, 34 x 16 x 11 ins., 26 ins., in the ground to bed rock for 1/4 sec. cor. mkd. 1/4 S., on the W. face, whence,

A pine, 18 ins., in diam. brs. N. 18 1/4° E., 38 lks. dist. mkd. 1/4 S. 19 B. T.

A juniper, 50 lks. W., 12 lks. dist. mkd. 1/4 S. 24 B. T.

51.62

A Gully, 15 lks. wide, course S. E.

55.10

Gully, 10 lks. wide, course S. E.

65.50

Gully, 10 lks. wide, course s. e. and ascend.

80.00 ✓

Set a malpais stone, 24 x 14 x 8 ins., 18 ins., in the ground for the cor. of secs. 13, 18, 19 and 24, marked with 3 grooves on the N. and S. edges, whence

An oak, 5 ins., in diam. brs. N. 30° E., 89 lks. dist. mkd. T. 2 N., R. 32 E., S. 18 B. T.

A juniper, 14 ins., in diam. brs. S. 32 1/2° E., 157 lks. dist. mkd. T. 2 N., R. 32 E., S. 19 B. T.

A juniper, 5 ins., in diam. brs. S. 43° W., 83 ls. dist. mkd. T. 2 N., R. 31 E., S. 24 B. T.

A juniper, 4 ins., in diam. brs. N. 10 1/2° W., 56 lks. dist. mkd. T. 2 N., R. 31 E., S. 13 B. T.

Land rough mountains 80.00 chs.

Soil, rocky and 4th rate.

Timber of heavy juniper, pine nad oak.

Underbrush dense oak brush.

August 22nd, 1904.

- August 23rd, 1904, at 7 a. m., 1. m. t., I set off
 33° 30' N., on the Lat. arc., 11° 30' N., on the
 decl arc and determine a true meridian with the
 solat, thence I run North on a true line, bet.
 secs. 13 and 18. Over rough mountains through scat-
 tering timber, and dense brush.
- 8.00 Top of ridge bears E. and W. and descend.
 Enter heavy timber.
- 26.80 Dry creek, 35 lks. wide, course N. W.
- 30.85 Gully 10 lks. wide, course west and ascend.
- 40.00 Set a malpais stone 18 x 13 x 7 ins., 12 ins., in the
 ground for 1/4 sec. cor. marked 1/4 on the W. face,
 whence,
 A pine, 15 ins., in diam. brs. N. 56° E., 46
 lks. dist. mkd. 1/4 S. 18 B. T.
 A pine, 20 ins., in diam. brs. N. 88 1/2° W.,
 36 lks. dist. mkd. 1/4 S. 13 B. T.
- 44.15 Gully 20 lks. wide, course west.
- 46.50 Gully, 10 lks. wide, course west.
- 60.00 Top of ridge bears northeast and southwest.
 Descend.
- 68.85 Dry creek, 30 lks. wide, course S. W. and commence
 ascent of steep slope.
- 70.04 Leave scattering and enter heavy timber.
- 80.00 Set a malpais stone, 18 x 12 x 8 ins., 12 ins., in
 the ground for the cor. of secs. 7, 12, 13 and 18,
 marked with 2 grooves on the North edges and 4 grooves
 on the S. edges, whence,
 A pine, 20 ins., in diam. brs. N. 57 1/2° E.,
 190 lks. dist., mkd. T. 2 N., R. 32 E., S. 7 B. T.
 A pine, 18 ins., in diam. brs. S. 46° E.,
 381 lks. dist. mkd. T. 2 N., R. 32 E., S. 18 B. T.
 A pine, 11 ins., in diam. brs. S. 54 1/2° W.,
 121 lks. dist. mkd. T. 2 N., R. 32 E., S. 13 B. T.
 A pine, 24 ins., in diam. brs. N. 20° W., 115
 lks. dist. mkd. T. 2 N., R. 31 E., S. 12 B. T.
 Land rough mountains 80.00 chs. Soil 4th rate.
 Timber scattering 70 and heavy 10 chs. pine and juniper.
- the ground to bed rock, marked 1/4 on the W. face, for
 1/4 sec. cor. bet. secs. 1 and 6, whence,
 An oak, 17 ins., in diam. brs. N. 51° E., 67
 lks. dist. mkd. 1/4 S. 6 B. T.
 An oak, 5 ins., in diam. brs. S. 72 1/2° W.,
 30 lks. dist. mkd. 1/4 S 1 B. T.
- 72.00 A pt. on line whence a spring bears E. 25 lks. dist.
 from which flows a good stream of living water.
- 73.09 Dry creek, 40 lks. wide, course west.
- Ascend and enter heavy brush.
- 80.00 Set a malpais stone, 28 x 13 x 13 ins., 22 ins., in
 the ground for the cor. of Tps. 2 and 3 N., Rs. 31
 and 32 E., marked with 6 grooves on each cardinal
 edge, whence,
 An oak, 10 ins., in diam. brs. N. 3° E., 51 lks.
 dist. mkd. T. 3 N., R. 32 E., S. 31 B. T.
 A pine, 9 ins., in diam. brs. S. 10° E., 144
 lks. dist. mkd. T. 2 N., R. 32 E., S. 6 B. T.
 A juniper, 20 ins., in diam. brs. S. 46° W.,
 66 lks. dist. mkd. T. 2 N., R. 31 E., S. 1 B. T.
 A Juniper, 7 ins., in diam. brs. N. 53 1/2° W.,
 27 lks. dist. mkd. T. 3 N., R. 31 E., S 36 B. T.
 Land rough mountinns 80. chs.
 Soil, 2nd to 4 th rate and rocky.
 Timber, heavy pine, oak and juniper timber 80.00 cjs.
 Oak underbrush very heavy 80.00 chs.
- August 23rd, 1904.

8. North boundary of Tp. 2 N., R. 31 E. Arizona.

Chs.

August 24th, 1904, at the Cor. of Tps. 2 and 3 N., Rs. 31 and 32 E., heretofore established and described by me, I set off $33^{\circ} 33' N.$, on the Lat. arc, and $11^{\circ} 14' N.$, on the decl. arc, and determine a true meridian with the Solar at 6h, 5m, a. m., l. m. t., Thence I run, S. $89^{\circ} 50' W.$, on a random line, on the north boundary of Tp. 2 N., R. 31 E., establishing temporary $1/4$ and sec. cors., at intervals of 40 chs., and at 481.45 chs., I fall 84 lks. S. of the Cor. of Tps. 2 and 3 N., Rs. 30 and 31 E., as heretofore established by me, this falling answers to a correction of 14 lks. N. or 6 minutes per mile, counting from the N. E. Cor. of the Tp.

August 24th, 1904.

August 25th, 1904, at 6h, 33m, a. m., l. m. t., I set off $33^{\circ} 33' N.$, on the Lat. arc., $10^{\circ} 50' 1/2' N.$, on the decl arc and determine a true meridian with the Solar at the Cor. of Tps. 2 and 3 N., Rs. 30 and 31 E., thence I run,

N. $89^{\circ} 56' E.$, on a true line, bet. secs.

6 and 31.

Along gentle rough slope of rough mountains, through heavy juniper and pine timber.

* 41.45 ✓ Set a malpais stone, 20 x 12 x 8 ins., ~~5 1/2~~ ins., in the ground for $1/4$ sec. cor. marked $1/4$ on the N. face, whence,

A pine, 18 ins., in diam. brs. S. $20 1/2^{\circ} E.$, 45 lks. dist. mkd. $1/4$ S., 6 B. T.

An oak, 5 ins., in diam. brs. N. $15 1/2^{\circ} W.$, 15 lks. dist. mkd. $1/4$ S. 21 B. T.

* 40.00 Dry creek, 75 lks. wide, course N. W. and ascend.

59.65 Top of ridge bears S. E. and N. W. and descend.

60.45 Dry creek, 25 lks. wide, course N. W.

67.05 Enter dry creek, 20 lks. wide, course N. W. cross and recross same.

81.45 ✓ Set a malpais stone, 26 x 20 x 14 ins., 20 ins., in the ground for the cor. of secs. 5, 6, 31 and 32, marked with 1 groove on the West and 5 grooves on the E., edges, whence,

A juniper, 36 ins., in diam. brs. N. $59 1/2^{\circ} E.$, 116 lks. dist. mkd. T. 3 N., R. 31 E., S. 32 B. T.

A pinon, 5 ins., in diam. brs. S. $44^{\circ} E.$, 55 lks. dist. mkd. T. 2 N., R. 31 E., S. 5 B. T.

A juniper, 8 ins., in diam. brs. S. $15 1/2^{\circ} W.$, 87 lks. dist. mkd. T. 2 N., R. 31 E., S. 6 B. T.

A pinon, 6 ins., in diam. brs. N. $61 1/2^{\circ} W.$, 83 lks. dist. mkd. T. 3 N., R. 31 E., S. 31 B. T.

Land rough mountains 81.45 chs.

Soil, rocky and 4th rate.

Timber cedar, pinon, juniper and pine.

At this cor. at 12h., 2m., p. m., l. m. t., I set off $10^{\circ} 44' N.$, on the decl. arc. and observe the Sun on the Meridian, the resulting lat. is $33^{\circ} 33' N.$, My watch is 2minutes fast of local mean time.

N. $89^{\circ} 56' E.$, on a true line, bet. secs. 5 and 32. Continuing along gentle N. slope of rough mountains, through heavy pine, juniper and oak timber. Ascending.

3.04 Top of ridge bears N. and S. and descend.

7.10 Cross dry creek, 20 lks. wide, course N. W. and ascend.

40.00 ✓ Set a malpais stone, 36 x 24 x 16 ins., 30 ins., in the ground for $1/4$ sec. cor. marked $1/4$ on the N. face, whence,

A juniper, 48 ins., in diam. brs. N. $40^{\circ} E.$, 85

9. North boundary of Tp. 2 N., R. 31 E., Continued.

chs. lks. dist. mkd. 1/4 S. 32 B. T.
 A juniper, 9 ins., in diam. brs. S. 26° E., 42
 52.30 lks. dist. mkd. 1/4 S., 5 B. T.
 Top of ridge bears N. and S. descend.
 56.09 Dry creek, 19 lks. wide, course N. and ascend.
 65.95 Top of spur bears N. and S. and descend.
 80.00 Set a malpais stone, 24 x 18 x 16 ins., 18 ins., in
 the ground for the corner of sections 4, 5, 32 and
 33, marked with 2 grooves on the W. and 4 grooves
 on the E. edges; whence,
 A pine, 14 ins., in diam. brs. N. 03° E., 64 lks.
 dist. mkd. T. 3 N., R. 31 E., S. 33 B. T.
 A pine, 15 ins., in diam. brs. S. 77° E., 97
 lks. dist. mkd. T. 2 N., R. 31 E., S. 4 B. T.
 A pine, 36 ins., in diam. brs. S. 20° W., 94
 lks. dist. mkd. T. 2 N., R. 31 E., S. 5 B. T.
 A pine, 12 ins., in diam. brs. N. 15° W., mkd 47 lks.
 dist. mkd. T. 3 N., R. 31 E., S. 32 B. T.
 Land rough mountains 80. chs.
 Soil rocky and 4th rate.
 Timber, heavy pine, pinon and juniper.
 August 25th, 1904.

August, 26th, 1904, at 6h., 28m., a. m., l. m. t.,
 I set off 33° 33' N., on the Lat. arc and 10° 28' 30"
 N., on the decl. arc and determine a true meridian
 with the solar.
 Thence I run,
 N. 89° 56' E., on a true line, bet.
 secs. 4 and 33, over gentle N. slope of rough mts.
 through heavy pine, pinon, and juniper timber.
 Descending.
 10.40 Gully, 10 lks. wide, course N.
 29.90 Gully 15, lks. wide, course N.
 39.95 Wagon road bears N. E. and S. W.
 40.00 Set a malpais stone, 18 x 14 x 7 ins., 12 ins., in
 the ground for 1/4 sec. cor. marked 1/4 on the N.
 face; whence,
 A pine, 18 ins., in diam. brs. S. 55° E., 107
 lks. dist. mkd. 1/4 S. 4 B. T.
 An oak, 16 ins., in diam. brs. N. 26° W., 75 lks.
 dist. mkd. 1/4 S. 33 B. T.
 44.09 Oak brush becomes very thick.
 61.85 Wagon road bears N. and S.
 75.20 Leave dense brush.
 80.00 Set a malpais stone, 26 x 20 x 4 ins., 13 ins., in
 the ground to bed rock, for the corner of sections
 3, 4, 33 and 34, marked with 3 grooves on the E. and
 W., edges, whence,
 A pine, 14 ins., in diam. brs. N. 15° E.,
 47 lks. dist. mkd. T. 3 N., R. 31 E., S. 34 B. T.
 An oak, 4 ins., in diam. brs. S. 33 1/2° E.,
 143 lks. dist. mkd. T. 2 N., R. 31 E., S. 3 B. T.
 A pine, 30 ins., in diam. brs. S. 16° W., 179
 lks. dist. mkd. T. 2 N., R. 31 E., S. 4 B. T.
 A pine, 5 ins., in diam. brs. N. 25° W., 113
 lks. dist. mkd. T. 3 N., R. 31 E., S. 33 B. T.
 Land rough mountains 80.00 chs.
 Timber, heavy pine oak and juniper 80. chs.
 Oak underbrush.
 Soil, rocky and 4th rate.
 At 12 o'clock noon, was unable to check latitude, cloudy.

N. 89° 56' E., on a true line, bet. secs. 3 and 34.
 descending over rough mountains through heavy timber.
 22.75 Gully, 10 lks. wide, course S. W.
 11.00 Top of ridge bears N. & S. and descend.

10.

North boundary of Tp. 2 N., R. 31 E., Continued.

Chs.
40.00

Set a malpais stone, 34 x 14 x 8 ins., 26 ins., in the ground to bed rock, marked 1/4 on the N. face, whence,

A pine, 6 ins., in diam. brs. S. 49° E., 19 lks. dist. marked 1/4 S. 3 B. T.

A pine, 14 ins., in diam. brs. N. 61° W., 45 lks. dist. mkd. 1/4 S. 34 B. T.

Descending.

51.55
69.14
80.00

Dry creek, 30 lks. wide, course N. and ascend.

Top of ridge bears N. and S. and descend.

Set a malpais stone, 18 x 12 x 8 ins., 12 ins., in the ground for the corner of sections 2, 3, 34 and 35 marked with 2 grooves on the E. and 4 grooves on the W. edges, whence,

A pinon, 9 ins., in diam. brs. N. 29° E., 21 lks. dist. mkd. T. 3 N., R. 31 E., S. 35 B. T.

A Juniper, 8 ins., in diam. brs. S. 21 1/2° E., 28 lks. dist. mkd. T. 2 N., R. 31 E., S. 2 B. T.

A juniper, 13 ins., in diam. brs. S. 47 1/2° W., 10 lks. dist. mkd. T. 2 N., R. 31 E., S. 3 B. T.

A juniper, 7 ins., in diam. brs. N. 4 1/2° W., 59 lks. dist. mkd. T. 3 N., R. 31 E., S. 34 B. T.

Land rough mountains 80. chs.

Timber heavy pine, juniper and oak, 80. chs.

Oak underbrush.

Soil rocky and 4th rate.

August 26th, 1904.

August 27th, 1904, I set off 33° 33' N., on the Lat arc 10° 07' 30" N., on the decl. arc and at 7h 5m, a. m., 1. m. t., I determine meridian with the solar, thence I run, N. 89° 56' E., on a true line bet. secs. 2 and 35 over gentle N. slope of rough mountains through heavy timber.

Descending.

11.75
20.05
25.90
31.50
40.00

Dry creek, 30 lks. wide, course N. W. and ascend.

Top of spur bears N. and S. and descend.

A pt. whence, a spring, brs. N. 1.25 chs. dist.

Dry creek, 45 lks. wide, course N. W. and ascend.

Set a malpais stone, 22 x 14 x 10 ins., 16 1/2 ins., in the ground for 1/4 sec. cor. marked 1/4 on the N. face, whence,

A juniper, 20 ins., in diam. brs. S. 42° E., 87 lks. dist. mkd. 1/4 S. 2 B. T.

A juniper, 12 ins., in diam. brs. N. 40 1/2° W., 92 lks. dist. mkd. 1/4 S. 35 B. T.

Top of spur bears N. and S. and descend.

51.10
70.45
80.00

Dry creek, 30 lks. wide, course N. W. and ascend.

Set a malpais stone, 24 x 15 x 13 ins., 18 ins., in the ground for the cor. of secs. 1, 2, 35 and 36, marked with 1 groove on the E., and 5 grooves on the W., edges, whence,

A pine, 4 ins., in diam. brs. N. 67° E., 65 lks. dist. mkd. T. 3 N., R. 31 E., S. 36 B. T.

A pine, 6 ins., in diam. brs. S. 81 1/4° E., 24 lks. dist. mkd. T. 2 N., R. 31 E., S. 1 B. T.

A pine, 24 ins., in diam. brs. S. 56° W., 80 lks. dist. mkd. T. 2 N., R. 31 E., S. 2 B. T.

A pine, 16 ins., in diam. brs. N. 64 1/4° W., 64 lks. dist. mkd. T. 3 N., R. 31 E., S. 35 B. T.

Land rough mountains 80. chs.

Soil, 2nd to 4th rate, rocky.

Timber, heavy pine, spruce, oak and juniper 80 chs.

11. North boundary of T. 2 N., R. 31 E., Concluded.

Chs. N. 89° 56' E., on a true line, bet. secs. 1 and 36. Over rough mountainous land through heavy timber. Descending.
 1.35 Ravine, 15 lks. wide, course N. W.
 9.95 Top of spur bears N. and S. and descend.
 40.00 Set a malpais stone, 20 x 12 x 10 ins., 14 ins., in the ground for 1/4 sec. cor. marked 1/4 on the N. face, whence,
 A pine, 30 ins., in diam. brs. S. 56° E., 38 lks. dist. mkd. 1/4 S. 1 B. T.
 An oak, 14 ins., in diam. brs. N. 44° W., 29 lks. dist. mkd. 1/4 S. 36 B. T.
 Descending.
 44.65 Dry creek, 35 lks. wide, course N. W. and ascend through low brush.
 80.00 The Cor. of Tps. 2 and 3 N., Rs. 31 and 32 E., heretofore established and described by me.
 Land rough mountains 80.00 chs.
 Soil, rocky 2nd to 4th rate.
 Timber heavy pine, juniper, spruce and oak 80. chs.
 Underbrush oak.

August 27th, 1904.

GENERAL DESCRIPTION.

This township is rough and mountainous, and is covered with heavy, pine, juniper, spruce and oak timber, it is traversed northerly and southerly by rough and precipitous mountain spurs and ridges, cut by many deep canons and Ravines.

It is hardly fit for grazing purposes, owing to its roughness and the danger that would attend life and limb in running cattle over it.

The elevation of the mountain spurs reaches in places 6,500. ft.

Latitudes, Departures and Closing Errors.

Line designated	Bearing	Distance chs.	N.	S.	E.	W.
W. Bdy.	North.	480.	480.00 ✓			
N. "	N. 89° 56' E.	481.45	.56 ✓		481.45 ✓	
E. "	South	480.		480. ✓		
S.	S. 89° 50' W.	480.90		1.40 ✓		480.9 ✓
Convergency,						
Totals,			480.56 ✓	481.40 ✓	.48 ✓	
Error,			481.40		481.93 ✓	480.9 ✓
			<u>481.40</u>		<u>480.01</u>	
			in lat. .84 ✓	in dep. 1.93 ✓		1.8 ✓

August 27th, 1904.

John P. Kesse
 U. S Deputy Surveyor.

LIST OF NAMES.

BOOK 1889

A list of the names of the individuals employed by John G. Hesse

....., United States Deputy Surveyor, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of the east, west and north boundaries of Pps. 2 N. Rg. 31 E.

showing the respective capacities in which they acted:

George W. Cassidy, Chainman.

A. A. Snyder, Chainman.

....., Moundman.

....., Moundman.

W. W. Oliver, Axman.

G. E. Wiswell, Axman.

W. H. Post, Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted John G. Hesse

....., United States Deputy Surveyor, in surveying all those parts or portions of the east, west and north boundaries of Pps. 2 N. Rg. 31 E.

..... of the Gila

Salt River meridian, Territory of Arizona, which are represented in the foregoing field notes as having been surveyed by him and under his direction; and that said survey has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the corner monuments established, according to the instructions furnished by the United States Surveyor

General for Arizona

George W. Cassidy, Chainman.

A. A. Snyder, Chainman.

....., Moundman.

....., Moundman.

W. W. Oliver, Axman.

G. E. Wiswell, Axman.

W. H. Post, Flagman.

Subscribed and sworn to before me this 27th day of August 1884



John G. Hesse
U.S. Dep. Surveyor

No notary available

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BOOK 1889

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, John F. Hesse, United States Deputy Surveyor, do solemnly swear that, in pursuance of a contract received from Frank S. Ingalls United States Surveyor General for Arizona, bearing date of the 17 day of June, 1904, I have well, faithfully, and truly, in my own proper person, and in strict conformity with the instructions furnished by the United States Surveyor General for Arizona, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of the east, west and north boundaries of T. 2 N. R. 31 E.

of the Gila and Salt River meridian, in the Territory of Arizona, which are represented in the foregoing field notes as having been surveyed by me, and under my direction; and I do further solemnly swear that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the United States Surveyor General for _____ and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey; and should any fraud be detected, I will suffer the penalty of perjury under the provisions of an Act of Congress approved August 8, 1846.

John F. Hesse
United States Deputy Surveyor.

Subscribed by said John F. Hesse and sworn to before me }
this 7th day of Nov, 189 1904.

Frank S. Ingalls
U. S. Sur. Genl. & Co.



APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona; March 22, 1905
The foregoing field notes of the survey of the East, West and North Bdrs. of T. 2 N., R. 31 E., of the Gila and Salt River Base and Meridian, in the territory of Arizona.

executed by John F. Hesse, U. S. Deputy Surveyor under his contract No. 121, dated June 17, 1904, 189, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

Frank S. Ingalls
United States Surveyor General.

I certify that the foregoing transcript of the field notes of the above described surveys in _____, has been correctly copied from the original notes on file in this office.

United States Surveyor General.